

REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed October 5, 2005. Reconsideration and allowance of the application and pending claims are respectfully requested.

I. Allowable Subject Matter

Applicant appreciates the Examiner's indication that claims 1-16 and 33-35 are allowed and that claims 19, 28, 29, 31, and 32 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

In that it is believed that every rejection has been overcome, it is respectfully submitted that each of the claims that remains in the case is presently in condition for allowance.

II. Claim Rejections - 35 U.S.C. § 102(b)

Claim 30 has been rejected under 35 U.S.C. § 102(b) as being anticipated by Nakamura (U.S. Pat. No. 6,520,633). Applicant respectfully traverses this rejection.

It is axiomatic that "[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *W. L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983). Therefore, every claimed feature of the claimed invention must be represented in the applied reference to constitute a proper rejection under 35 U.S.C. § 102(b).

In the present case, not every feature of the claimed invention is represented in the Nakamura reference.

Applicant's claim 30, as amended, provides as follows (emphasis added):

30. A method comprising:

individually ejecting fluid from multiple ejection chambers of a printing device with ejection elements of a fluid cartridge that comprises the ejection chambers in a pattern designed primarily to create fluid flow to move a contaminant present in fluid contained in a fluid-feed channel configured to supply fluid to the multiple ejection chambers; and,

responsive to said ejecting, moving fluid in the fluid-feed channel sufficiently to move a contaminant in a desired direction within the fluid-feed channel.

Nakumura discloses an ink-recording apparatus that is cleared of contaminants through a sucking operation. In particular, a cap 40, separate from an ink-jet head unit 600, is applying to all of the nozzles 11 of the ink-jet head unit and a suction force is applied to the cap to draw contaminants from the ink-jet head unit. Nakumura, column 5, lines 13-16; Figure 1. In view of this, Nakumura does not teach “individually” ejecting fluid from multiple ejection chambers of a printing device “with ejection elements of a fluid cartridge that comprises the ejection chamber”. Specifically, no “ejection elements” of Nakumura’s ink-jet head unit 600 is used to eject fluid from Nakumura’s nozzles. Nakumura does not anticipate claim 30 for at least this reason.

III. Claim Rejections - 35 U.S.C. § 103(a)

A. Rejection of Claims 17, 18, 20, and 22-27

Claims 17, 18, 20, and 22-27 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Chan, et al (“Chan,” U.S. Pat. No. 6,547,379) in view of Chen, et al. (“Chen,” U.S. Pat. No. 6,799,837). Applicant respectfully traverses this rejection.

As has been acknowledged by the Court of Appeals for the Federal Circuit, the U.S. Patent and Trademark Office (“USPTO”) has the burden under section 103 to establish a *prima facie* case of obviousness by showing some objective teaching in the prior art or generally available knowledge of one of ordinary skill in the art that would lead that individual to the claimed invention. *See In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). The Manual of Patent Examining Procedure (MPEP) section 2143 discusses the requirements of a *prima facie* case for obviousness. That section provides as follows:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teaching. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and reasonable expectation of success must be found in the prior art, and not based on applicant’s disclosure.

In the present case, the prior art at least does not teach or suggest all of the claim limitations.

Applicant's independent claims 17, 25, and 26, as amended, provide as follows
(emphasis added):

17. A system comprising:

a fluid-feed channel configured to supply fluid to a plurality of ejection chambers; and,

a processor configured to cause fluid to be ejected from one or more of the ejection chambers in a contaminant moving pattern that creates fluid flow designed to move a pre-existing contaminant contained in the fluid-feed channel in a desired direction.

25. A micro electro mechanical systems device comprising:

means for supplying fluid along a fluid-feed path to a plurality of ejection chambers, individual ejection chambers comprising an energizing element configured to eject fluid from an associated individual ejection chamber; and,

means for moving a pre-existing contaminant in a desired direction along the fluid-feed path by sequentially ejecting fluid from at least some of the ejection chambers in a pattern designed to create fluid flow in the fluid-feed path to move the contaminant.

26. A printing device comprising:

a print head comprising multiple ejection chambers and a fluid-feed channel configured to supply fluid to the ejection chambers; and,

a controller configured to cause fluid ejection from individual ejection chambers in a pattern designed to move a pre-existing bubble in a desired direction within the fluid-feed channel.

The Chan reference is relied upon in the Office Action for teaching each of the limitations of claims 17, 25, and 26. Chan discloses an ink head cartridge 100 comprising a print head 124. Chan, column 3, lines 42-44. In operation, heaters of the print head are employed to “generate bubbles by heating ink, and these bubbles cause the ink in the print head 124 to jet from the nozzle holes.” Chan, column 3, lines 44-47. The residual bubbles created by the ejection process that incompletely contract naturally float upwards and are collected by a bubble chamber 116. Chan, column 3, lines 47-53.

In view of the above, Chan does not teach a processor that is configured to “cause fluid to be ejected from one or more of the ejection chambers in a contaminant moving pattern that creates fluid flow designed to move a pre-existing contaminant contained in the fluid-feed channel in a desired direction” as provided in claim 17. In particular, fluid is not ejected from Chan’s ink head cartridge to create a “contaminant moving pattern” that “creates fluid flow” designed to move a contaminant. Instead, Chan’s residual bubbles simply float upward into Chan’s bubble chamber. Furthermore, the residual bubbles are not “pre-existing” contaminants because they are actually *created by the heaters during the ink-ejection process*. In other words, Chan does not teach ejecting fluid from chamber to move pre-existing contaminants given that the fluid ejection actually creates the contaminants in the Chan ink head cartridge.

For similar reasons to those described above, Chan further does not teach “means for moving a pre-existing contaminant in a desired direction along the fluid-feed path by sequentially ejecting fluid from at least some of the ejection chambers in a pattern designed to create fluid flow in the fluid-feed path to move the contaminant” as provided in claim 25, or “a controller configured to cause fluid ejection from individual ejection

chambers in a pattern designed to move a pre-existing bubble in a desired direction within the fluid-feed channel” as provided in claim 26.

In view of the above, Applicant respectfully submits that independent claims 17, 25, and 26, and their dependent claims, are allowable over Chan and Chen.

B. Rejection of Claim 21

Claim 21 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Chan as modified by Chen as applied to claim 18, and further in view of Balazar (U.S. Pat. No. 4,929,963). Applicant respectfully traverses this rejection.

As is identified above, Chan and Chen do not teach explicit limitations of Applicant’s claim 17. In that Balazar does not remedy the deficiencies of the Chan and Chen references, Applicant respectfully submits that claim 21, which depends from claim 17, is allowable over the Chan/Chen/Balazar combination for at least the same reasons that claim 17 is allowable over Chan/Chen.

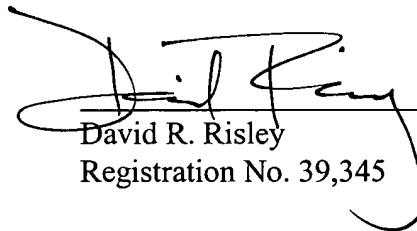
IV. New Claims

Claims 36-38 have been added into the application through this Response. Applicant respectfully submits that these new claims describe an invention novel and unobvious in view of the prior art of record and, therefore, respectfully requests that these claims be held to be allowable.

CONCLUSION

Applicant respectfully submits that Applicant's pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,



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Signature